*ROYAL SOCIETY CONVERSAZIONE.**

THE first of the two Royal Society *conversaziones* has been held at the society's rooms in Burlington House. There was, as usual, a large attendance, the visitors being received by the president, Sir William Huggins.

The exhibits seemed to be more numerous than the average, and, on the whole, each had a wider range than last year. Exhibits in the departments of physics and chemistry predominated, electricity and its applications being prominent. Naturally, special interest was manifested in the new coherer as applied to wireless telegraphy, shown by Sir Oliver Lodge and Dr. Alexander Muirhead. The coherer consists of a steel wheel which rotates so that its edge touches a pool of mercury through a film of oil, the decoherence being automatic. A fraction of a volt is used in the detecting circuit, which works a siphon recorder as the receiving instrument. The sending post of the station was also shown. It ought to be noted that some years ago, at a Royal Society *soirée,* Sir Oliver Lodge exhibited an arrangement for wireless telegraphy, of which this may be regarded as the parent stage. Sir Oliver Lodge is devoting himself rather to the perfection of his arrangement than to the attainment for the present of long distances. Another exhibit which naturally attracted much attention was that by Sir William Crookes, illustrative of the properties of the emanations of radium. There were autoradiographs, photographs of radium emanations, luminous effects of radium emanations, and an ingenious little instrument which Sir William Crookes calls a spinthariscope, intended as a convenient contrivance to show the scintillations of a piece of radium nitrate. A solution of radium on a small plate formed a permanent lamp, which might really be of practical use.

* From the London *Times*.

Included among other exhibits of an electrical character may be mentioned the Rev. F. J. Jervis-Smith's high-pressure spark-gap, consisting of a thick glass globe furnished with two platinum-faced balls, adjustable for distance, used in connection with an inductor of the Tesla type, and also in connection with a radiator of Hertzian waves. Mr. A. Williams showed some brilliant experiments to illustrate a method, by means of a shunt, of controlling and regulating spark discharges, so as to make them more regular and more under control for therapeutic and wireless telegraphy purposes.

Dr. W. Ramsden's experiments, to demonstrate the presence and spontaneous formation of solid membranes upon the free surfaces of certain solutions, were striking, and some of the results, including micro-photographs and microscopic specimens, were very beautiful. Mr. Joseph Goold's diagrams, illustrating the order and origin of the musical scales, showing that the system of sounds commonly employed in written music is dual throughout, were remarkable. Mr. A. E. Tutton exhibited an elaborate arrangement which he calls an elasmometer, for the determination of the elasticity of solid substances, particularly crystals, which can not be obtained in very large pieces. Mr. W. Watson's light mirrors suitable for galvanometers are made of fused silica, the reflecting surface consisting of a film of platinum. An experiment by Mr. O. W. Richardson illustrated the conductivity imparted to a vacuum by hot carbon. Dr. Common exhibited a collimating gunsight for use by day and night, consisting of a lens mounted in a tube fixed at the top or side of the gun, with a fiducial mark at its focus, the mark being a black spot for day work or a small luminous red spot for night work. Dr. Common also showed an optical sight

for guns and rifles, and a spherometer of great delicacy. The Rev. John Bacon's aerial photographs were extremely interesting. They were obtained recently from balloons in unique circumstances. Mr. T. Matthews showed some incandescent oil-burners which have been designed by him, primarily for use in the Trinity House lighthouse service. The arrangement, like that of most of the other exhibits, is too elaborate to be understood by mere verbal description; but it may be stated that the intensity of a single mantle burner for flashing lights is 1,100 candles, and the consumption of oil one pint per hour, while the intensity of a triple mantle-burner, for fixed and occulting lights, is 2,700 candles, and the consumption of oil three pints per hour.

From the Solar Physics Observatory, South Kensington, were photographs illustrating a comparison of the arc spectra of various samples of dust, showing what chemical elements are represented in the samples. There were also some very interesting and convincing curves illustrating the long-period solar and meteorological (rainfall) variations of about thirty-five years. As might have been expected, a number of exhibits were connected with the recent destructive volcanic phenomena in the West Indies, which were investigated by a commission sent out by the Royal Society. There were a number of photographs illustrating the late eruptions in St. Vincent and Martinique and also specimens of the volcanic dusts, ashes and other *ejecta* of the West Indian volcanoes. It need hardly be said that Mr. Arthur J. Evan's exhibit illustrative of the excavations at Knossos, in Crete, deservedly attracted considerable attention. The exhibit consisted of a general plan of the Palace.

There were a considerable number of biological exhibits, which can only be briefly alluded to. Deserving of careful study are the results of the experiments shown by Miss E. R. Saunders illustrative of what she calls structural atavism, resulting from cross-breeding in plants. Dr. A. Macfadyen and Mr. S. Rowland, of the Jenner Institute of Preventive Medicine, illustrated their methods of disintegrating cells and micro-organisms and of obtaining their intracellular constituents. Dr. Alan B. Green had an exhibit illustrating the method of preparation of chloroformed calf lymph, from the government lymph laboratories. Dr. G. H. Fowler showed specimens of a remarkable radiolarian, differing in structure from all other forms hitherto described, and Dr. H. Gadow a very beautiful illustration of the development of the color pattern in Mexican species of lizards and a convincing illustration of the influence of environment. The five specimens of sea snakes that swarm round the coasts of India and in other tropical seas, exhibited by Dr. Leonard Rogers, their poison being more powerful than that of any other snakes, though interesting in their way, can hardly be said to have been attractive. Miss Dorothy Bate showed the remains of pygmy elephant and pygmy hippopotamus, obtained from caves in Cyprus.

The exhibition by means of the lantern of Sir Benjamin Baker's magnificent slides illustrative of the Nile Dam works, it need hardly be said, met with universal admiration. Dr. Cantellani's specimen of Trypanosoma, found in sleeping-sickness patients in Uganda, should be mentioned. There were many other exhibits in the rather crowded rooms, all of them illustrative of important scientific work.

SOCIETIES AND ACADEMIES.

NEW YORK ACADEMY OF SCIENCES.

SECTION OF BIOLOGY.

A REGULAR monthly meeting was held at the American Museum of Natural History